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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,432	04/05/2004	Michael Hermann	741124-101	1286
22204	7590	08/26/2005	EXAMINER	
NIXON PEABODY, LLP 401 9TH STREET, NW SUITE 900 WASHINGTON, DC 20004-2128			COHEN, AMY R	
			ART UNIT	PAPER NUMBER
			2859	

DATE MAILED: 08/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/817,432

Applicant(s)

HERMANN, MICHAEL

Examiner

Amy R. Cohen

Art Unit

2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/05/04; 12/22/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the gyroscope-based directional measurement device; eight individual inclinometers must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: providing confirmation of the measured results of the first and second type with respect to a roll coordinate and a pitch coordinate.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 claim language is confusing because it is unclear as to how the gyroscope-based directional measurement system is added in order to provide confirmation of the measured results of the first and second type.

Claim 10 is rejected based on its dependency on rejected claim 9.

For purposes of prosecution, claims 9 and 10 are not considered on the merits.

Claim Objections

5. Claim 1 is objected to because of the following informalities:

Claim 1, line 6 “a least” should read --at least--.

Claim 1 is objected to since claim 1 only positively claims three inclinometers in line 6. However, in order to obtain the second type of measurement, at least four inclinometers are needed. If only three inclinometers are present, only one orientation is found, therefore the second type of measurement can not be reached as claimed and as understood from the specification. Therefore, claim 1 is interpreted to claim at least four inclinometers (as claimed in claim 2).

Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-8, 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hermann (U. S. PGPUB 2002/0165688) in view of Julian (U. S. Patent No. 5,671,160).

Regarding claims 1-8, 11, 13, 14: Hermann discloses a measurement device which includes a plurality of gyro systems for determining steady-state, three-dimensional positions relative to a predefined inertial direction and for determining the three-dimensional orientation of a body relative to two reference directions lying in a horizontal plane (Fig. 1) comprising: a housing (Fig. 1) adapted for placement on a surface or edge of the body to be measured (Paragraph [0010]); a least three individual gyros (11-17) on or within the housing each positioned in respective reference directions so as to be oriented in different directions in space

Art Unit: 2859

relative to each other in order to register a component of acceleration due to gravity (Fig. 1, Paragraph [0010]); and a computation device (50), wherein a combination of three individual gyros combine to form one gyro triad supplying a respective first measured result which indicates the three-dimensional angular orientation of the measurement device with the directional coordinates of roll and pitch such that a plurality of measured results of a first type can be determined (Paragraphs [0010]-[0011]), and wherein the computation device is adapted for determining a measured result of a second type from the measured results of the first type, the measured result of a second type being an overall measured result which indicates another angular orientation of the measurement device with regard to the directional coordinates of roll and pitch (Paragraphs [0010]-[0011]).

Hermann discloses the measurement device wherein at least four gyros are provided on or within the housing (Fig. 1, Paragraph [0010]).

Hermann discloses the measurement device wherein the computation device has means for performing an averaging method on the plurality of measured results of the first type to achieve the measured result of the second type (Paragraphs [0004], [0011], [0013]).

Hermann discloses the measurement device wherein the different reference directions relate to a point of symmetry and substantially correspond to the directions perpendicular to surfaces of a regular polyhedron (Paragraph [0006], claim 2).

Hermann discloses the measurement device wherein the regular polyhedron is one of a tetrahedron (claim 2), an octahedron (Paragraph [0013], claims 2 and 4), and a decahedron.

Hermann discloses the measurement device wherein the different reference directions relate to a line in space and substantially correspond to directions which are defined by perpendiculars of side faces of an at least four-sided pyramid (Fig. 1, claim 3).

Hermann discloses the measurement device wherein the different reference directions relate to a line in space and substantially correspond to directions which are defined by perpendiculars of side faces of an at least three-sided pyramid (Fig. 1, claim 3).

Hermann discloses the measurement device wherein there are eight individual gyros each of which has definite reference directions that are aligned parallel to one of surface perpendiculars, edges of the polyhedron, corner radii of the polyhedron or edge center radii of the polyhedron (Paragraph [0013]).

Hermann discloses the measurement device in which the overall measured result is determined by a weighted average and by using weighted criteria (Paragraph [0011]).

Hermann discloses a machine for the production or processing of paper, metal or plastic films comprising the measurement device (Paragraph [0012]).

Hermann discloses a machine tool comprising the measurement device (Paragraphs [0002], [0012]).

Hermann does not disclose the measurement device comprising a plurality of inclinometers.

Julian discloses a measurement device comprising a plurality of inclinometers, wherein gyros and inclinometers are alternate, equivalent measurement devices (Col 8, lines 25-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the measurement device of Hermann to use a plurality of inclinometers, as

Art Unit: 2859

taught by Julian, since gyros and inclinometers are alternate, equivalent measurement devices (Julian, Col 8, lines 25-34).

Regarding claims 12, 15, 16: Hermann discloses a method of providing an accurate position value when determining the three-dimensional orientation of a measurement device or of a body in contact with the measurement device comprising: a first measurement step of obtaining all usable directional information by means of measurement values acquired from combinations of three gyros from a total of "k" individual gyros present on or in the measurement device (Paragraphs [0004], [0006], [0011]); and a second measurement step of computing an overall measured result by means of statistical algorithm from the usable directional information of the first measurement step, wherein "k" is at least three individual gyros positioned in respective reference directions so as to be oriented in different directions in space relative to each other in order to register a component of acceleration due to gravity (Paragraphs [0004], [0006], [0011]).

Hermann discloses a method of prospecting for or supplying oil wherein directional information for the apparatus for prospecting or supplying oil is determined by the above method (Paragraph [0002], the method is described as used in any generic machine in order to obtain directional information, therefore, since an apparatus for prospecting or supplying oil is a machine, this claim is satisfied).

Hermann discloses a method for measuring buildings or structure wherein information for the building or structure is determined by the method above (Paragraph [0002], the method is described as used in any generic body in order to obtain directional information, therefore, since a building or structure is a generic body, this claim is satisfied).

Art Unit: 2859

Hermann does not disclose the method comprising a plurality of inclinometers.

Julian discloses a method comprising a plurality of inclinometers, wherein gyros and inclinometers are alternate, equivalent measurement devices (Col 8, lines 25-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Hermann to use a plurality of inclinometers, as taught by Julian, since gyros and inclinometers are alternate, equivalent measurement devices (Julian, Col 8, lines 25-34).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents disclose measurement devices Hermann (U. S. Patent No. 6,718,280), Toda et al. (U. S. Patent No. 6,505,409), and Bernelin et al. (U. S. Patent No. 4,616,929).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy R. Cohen whose telephone number is (571) 272-2238. The examiner can normally be reached on 8 am - 5 pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F. Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2859

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ARC
August 24, 2005



Christopher Fulton
Primary Examiner
Tech Center 2800